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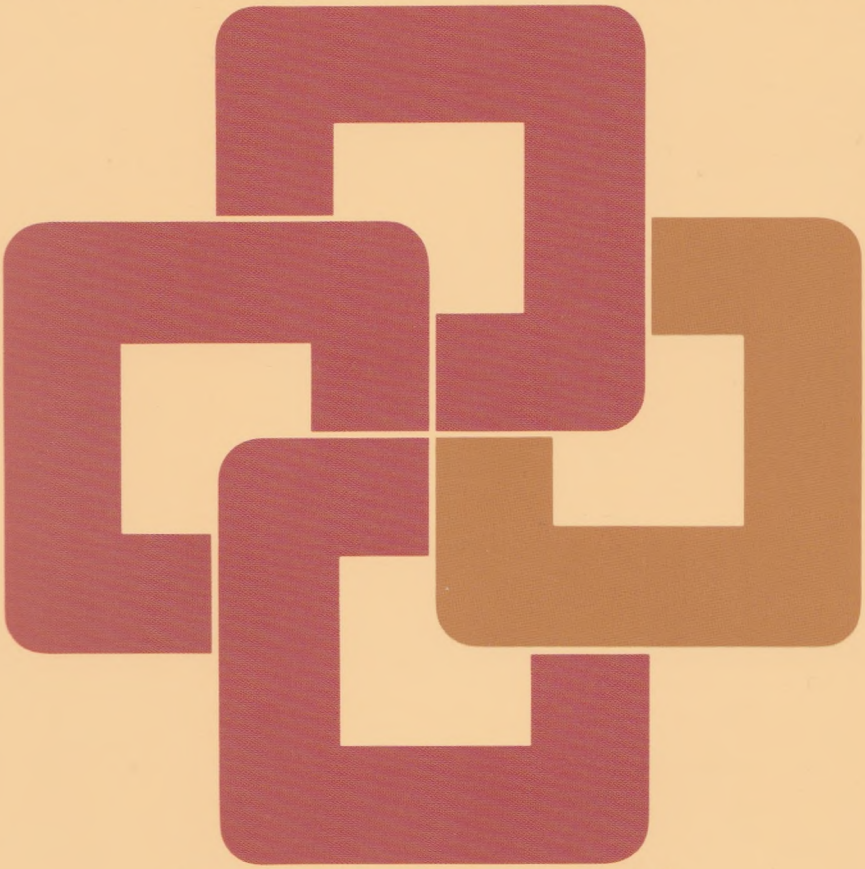

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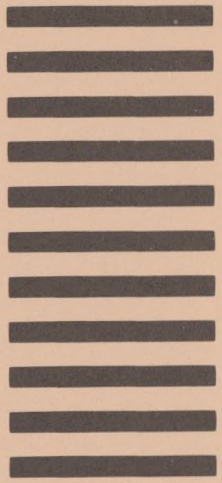

pfs: file

user's manual

for the Commodore 64 Computer

Program Author: Don Williams
Manual Author: Briana Burns

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about this manual

This manual explains how to use the PFS:FILE program to help organize and manage the information you use every day. If you are not familiar with the general operation of your Commodore computer system, read through the VIC-1541 User's Manual before beginning to use the PFS:FILE program.

To use PFS:FILE, you need a Commodore 64 Computer system with one disk drive. You also need the PFS:FILE program diskette and a supply of blank, formatted diskettes. A printer is not necessary, but most users of FILE will want one.

This manual provides step-by-step instructions on how to get started and how to use each FILE function. Each chapter proceeds through one function in detail. The manual works with the same major example throughout to allow you to use your computer and experience FILE as you are reading about it. The best way to learn FILE is to read the manual and follow the examples. Text that you are to type is shown in boldface type.

The appendices contain information on recovering from error conditions, estimating how many forms will fit in a file, and making backup copies of your files. Also included are a quick reference guide which summarizes all the keys and commands you use with FILE, and an index.

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1: what is pfs:file?

PFS:FILE is a computer program that you can use to store and retrieve the information you deal with every day. It works with all kinds of information—about people, places, objects, ideas, or events. PFS:FILE (or simply FILE) is useful in a wide range of applications in home, education, business, and professional environments. FILE organizes and stores information efficiently, providing easy access to any information you want. Retrieval is fast and reliable, and is not limited by the order in which the information is stored.

When you use FILE, your information is kept in forms of your own design. A form can have as much or as little structure as you wish. Using the computer keyboard and screen, you design the form you want, save it in a file on a disk, and then use it to store your information.

Here are some examples of the kinds of forms you can design:

A Club Membership Roster

HYDE PARK COMPUTER CLUB
MEMBERSHIP APPLICATION

Your Name _____

Address _____

_____

Phone Numbers, Home and Work _____

What kind of computer do you have? _____

List all peripheral equipment: _____

_____

_____

_____

How long have you been using a computer? _____

What kinds of things have you done with a computer? _____

_____

_____

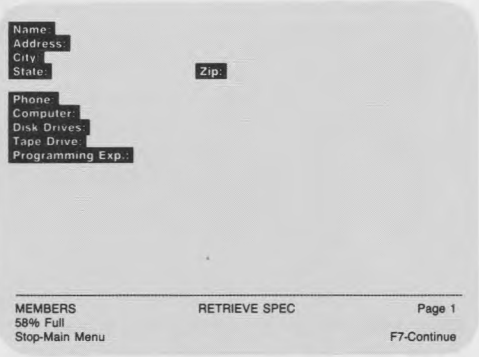
_____

_____

If you've written programs that might be useful to others, please list them: _____

_____

_____



A Customer List

Acct. # 126

Mrs. Jane Belden

2719 Ontario Rd.
Washington, DC 20009

Credit — Good

Method of Payment — Bill

Orders — 11/2/81 Honey, 1 qt.
11/16/82 Maple Syrup, 1 qt.
10/21/83 2 lb. Nut Assortment

Acct.
Name:
Address:
City:
State: Zip:

Credit Rating:
Method of Payment:

Date of Last Purchase:
Purchases:

CUSTLIST RETRIEVE SPEC Page 1
15%Full
Stop-Main Menu F7-Continue

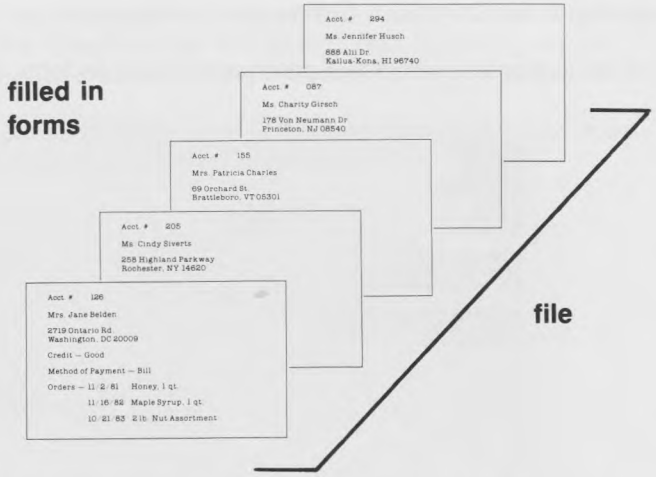
A Check Record

					893 89
2556	7/1	Penney's	12 23		881 16
2557	7/1	S. Wright	26 25		854 91
2558	7/9	Pacific Telephone	29 84		825 07
2559	7/10	San Jose Water	7 50		817 57
2560	7/15	V&F Distributors	5 00		812 57
2561	7/14	West American Bank	30 00		782 57
2562	7/16	San Jose Mercury - Ad	33 84		748 73
2563	8/4	AV Market	33 26		715 47
2565	8/6	Postmaster - Stamps	20 00		695 47
—	8/10	Check Order	7 06		688 41
2566	8/15	State Farm	221 00		467 41
2567	8/16	P G + E	47 16		420 25
	9/1	Salary		962 38	1382 63

Check
Date:
To:
For:
Category:
Amt:
Tax Deductible:

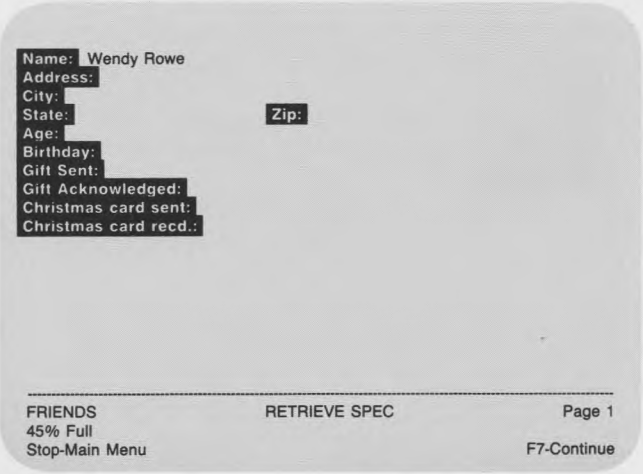
CHECKBOOK RETRIEVE SPEC Page 1
4% Full
Stop-Main Menu F7-Continue

After you have designed the blank form, you can recall it to the screen, fill it out with the information you want to keep, and then store the filled-in form back in the file. You can enter data in any order you like and FILE will find the information when you need it. Diskette storage is very compact. Depending on the number of pages there are in the form, how many items there are per page, and how much data is entered in each item, you can store up to 1000 simple forms. See *Appendix B, Diskette Storage Capacity*, to learn how to estimate accurately the number of forms that will fit in a file.



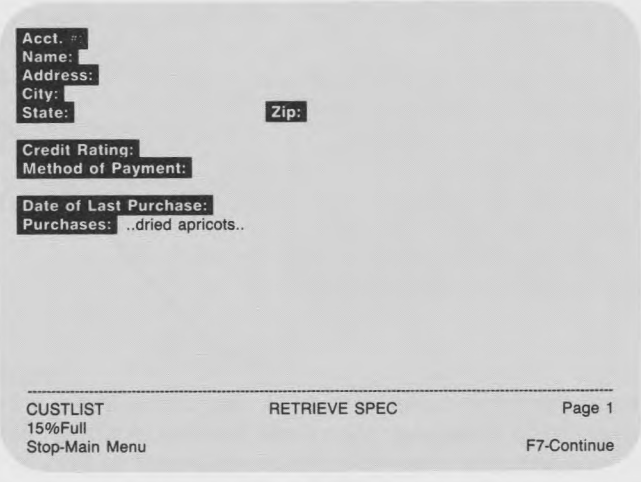
Once you store the information in the file, you can retrieve it in a variety of different ways. Using a retrieve spec form like the example shown in the next screen, you indicate what information you want to find by filling in retrieve specifications. You can ask for all items that exactly match a given set of characters:

"find the form for Wendy Rowe"



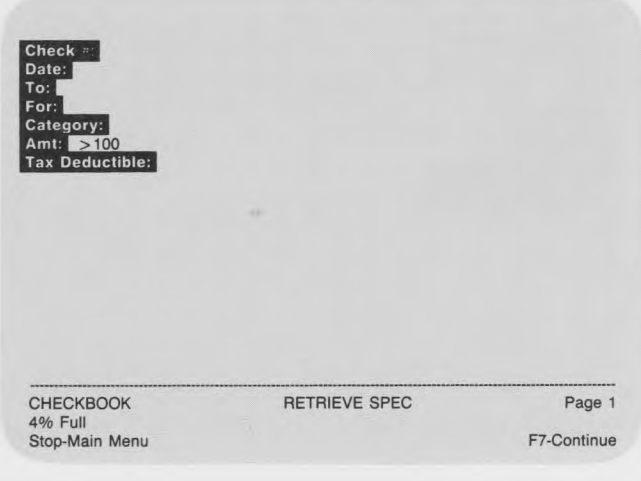
or all items that contain a certain set of characters:

"find all customers who have purchased dried apricots from us"



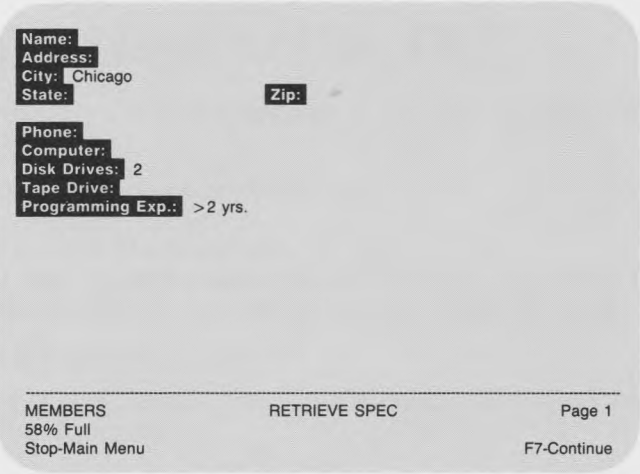
If the item is a number, the request can be for all items less than, greater than, or equal to a given number:

"find all checks for over one hundred dollars"



FILE allows you to enter a request for every item in the form. Only those forms meeting all the specifications are found. This feature gives you access to complex relationships among different items of information:

"find all members who live in Chicago, have two disk drives, and have more than two years of programming experience."



You can display the requested forms on the screen for quick viewing (and updating, if you wish) or print them for a more permanent record. You can print the entire form or selected portions of it, formatted to your specifications (for example, you can generate mailing labels).

In short, PFS:FILE is a computer program that helps you store and retrieve information in a way that is familiar, versatile, and powerful.

2: getting started

This chapter provides basic information about starting to use the PFS:FILE program.

What You Need to Use FILE

To take full advantage of all the features of the FILE program, you need the following equipment:

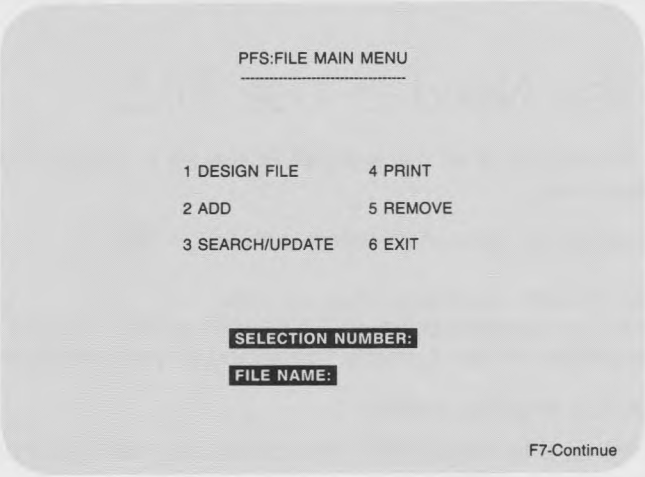
- a Commodore 64 computer system with
  - a TV or monitor, black-and-white or color
  - a Model 1541 diskette drive, or SX-64 with built-in diskette drive
  - a Commodore printer, properly connected to your computer
- the PFS:FILE program diskette
- blank, high-quality, single-sided, double-density, formatted diskettes on which to store your files

Starting the FILE Program

To start the FILE program, first turn on the computer. When the screen says "READY", insert the FILE program diskette into the drive and type **LOAD "FILE",8,1**. Press the Return key. The red in-use light on the disk drive comes on and a few minutes later the FILE Main Menu appears on the screen. After loading FILE, remove the program diskette from the drive and put it back in its protective envelope.

The PFS:FILE Main Menu

The Main Menu looks like this:



You see this menu when you first load FILE and whenever you press the Stop key. Use this menu to select the function you want FILE to perform. Along with the list of FILE functions, the menu includes two items for you to fill in:

Selection Number: Type the number corresponding to the function you want to perform (1 selects DESIGN FILE, 4 selects PRINT, etc.). Each time the Main Menu appears, this item is cleared, indicating FILE is ready for you to enter a new selection.

File Name: Type the name of the file you are going to use. You initially give the file a name when you design it (see Chapter 3). PFS data file names are just like BASIC file names. They can be 10 characters long.

Keyboard Control Keys

The list below shows three special keys you use frequently when working with FILE. Other keys are explained as necessary throughout the manual. All keys are summarized in *A Quick Guide to PFS:FILE* at the back of this manual.

Key	Function
Stop	**Stop.** Use this key at any point while using FILE to cancel the current operation and return to the Main Menu.
F7	**Continue.** Use this key to begin or continue the specified function.
F1	**Tab.** Use this key to tab to the next data entry point.

Protecting Your PFS Data Files

By the time you have created a PFS file and entered the information in it, you have invested a good deal of your time. To avoid losing the data stored in that file (and the time you've spent entering it), follow these guidelines:

1. Handle your diskettes carefully. Store away from heat, sunlight, and devices with strong magnetic fields (TVs, diskette drives, etc.)

2. Always keep at least one extra, or "backup" copy of each PFS file. See *Appendix C, Making a Backup Copy.*

3. Print a copy of your files from time to time. See Chapter 6 for instructions.

Exiting from FILE

When you are finished using the FILE program, use the EXIT function. To select EXIT, return to the Main Menu (press Stop, if necessary) and enter 6 in the Selection Number item. You need not enter a file name. Press F7 and the screen clears. You are out of the FILE program and the READY prompt reappears.

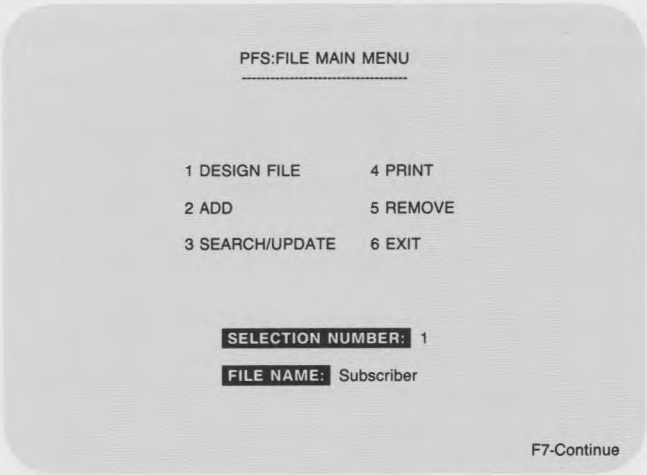
3: designing a file

You use the DESIGN FILE function to create a file for storing information. You select a diskette to hold the file, give the file a name, design the form, and store this form on the diskette. Later, you fill in the form with information, and FILE stores that information in the file on the same diskette. You can create only one file on each diskette.

Selecting DESIGN FILE

Let's create the sample file you will work with throughout this manual. Start the FILE program according to the directions in Chapter 2. When the FILE Main Menu appears on the screen, remove the FILE program diskette and put a blank, formatted diskette in the drive. Note that only one PFS file can be stored on a diskette, so any files already on the disk will be erased during the design process.

To select the DESIGN FILE function, first enter a **1** in Selection Number. Press the F1 key to move the cursor to the File Name item, and enter the name for this sample file, **Subscriber**. When you have filled in both items, the screen looks like this:



Now press the F7 key. The Design File Menu appears next:

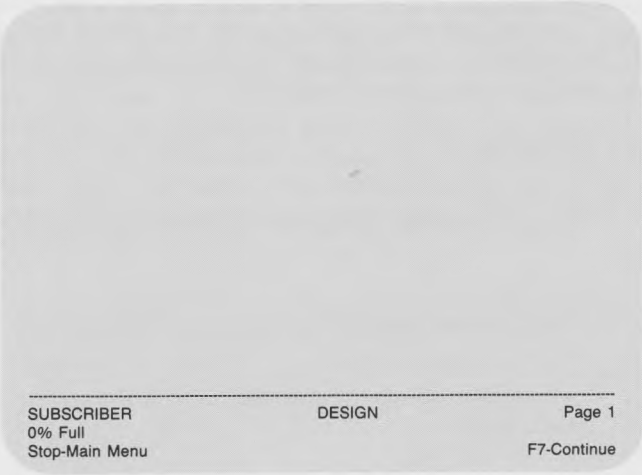
This menu presents two options. With Create File, you can design the form for a new file. With Change Design, you can change an existing form design, whether or not the file contains data. This second option is discussed in Chapter 8.

Creating the File

To create a new file, enter a **1** in the Design File Menu, and press F7. The following screen appears:

INSERT A DISKETTE IN DRIVE 0
W A R N I N G
THE DISKETTE IN DRIVE 0
WILL BE COMPLETELY OVER-WRITTEN
Press Stop to abandon this operation
Press F7 to continue
F7-Continue

Be sure you wish to use the diskette that is in the drive and then press F7. FILE prepares the disk for a new file (this takes about a minute) and then a screen appears on which you design your form:



FILE uses the message area at the bottom of the screen to tell you:

- the name of the file you are creating (SUBSCRIBER)
- what stage of file development you are in (DESIGN)
- the page number (1)
- frequently-used function keys, and what they do
- a percent full meter telling you how much of the disk space you have used so far

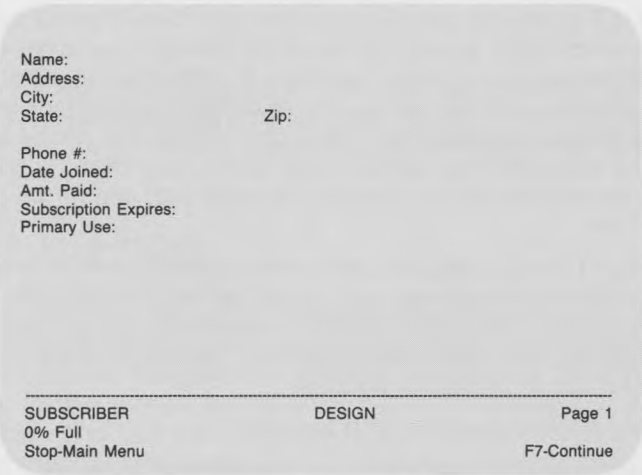
Entering the Design

By following this example, you will create a file to store information for six fictitious subscribers to a Commodore users' group newsletter. To enter the information, use the following keys to move the cursor to different positions and fix mistakes. If you are not familiar with your keyboard, you might want to practice using these keys now:

Key	Function
RETURN	**Return**. Returns the cursor to the beginning of the next line
⇐ CRSR ⇒	**Right Arrow**. Moves the cursor to the right one space
⇐ CRSR ⇒	**Left Arrow**. (Shift right arrow) Moves the cursor to the left one space
⇑ CRSR ⇓	**Down Arrow**. Moves the cursor down one space
⇑ CRSR ⇓	**Up Arrow**. (Shift down arrow) Moves the cursor up one space
DEL	**Delete**. Moves the cursor one position to the left, erasing that character
←	**Erase.** (The big arrow at the top left of the keyboard) Deletes the character under the cursor
INST	**Insert**. (Shift Del) Turns on the insert mode. Insert mode will let you insert characters, moving existing characters to the right. Pressing Inst a second time turns off insert mode and puts you back in strikeover mode. Strikeover mode lets you type over existing characters, erasing them in the process
HOME	**Home**. Returns the cursor to the upper left-hand corner of the screen

FILE retrieves information most efficiently on the first item of information in the form. An *item* refers to the area you set aside for information on your form (and later the filled-in section).

Since subscribers will be retrieved most often by name, we'll make *Name* the first item on the Subscriber form design. The cursor should be in the top left-hand corner of the screen (press the Home key if it isn't) so type **Name:** as the first item. (If you prefer for readability, enter Name and the other item names in all uppercase letters.) Every item must be ended by a colon. Then press the Return key to move the cursor to the next line and type **Address:**. Continue moving the cursor with the cursor movement keys and typing item names, ending each item name with a colon, until the screen looks like this:



When you have entered all of the items on the form, press F7. FILE stores the form on the disk in a new file named Subscriber, and then returns to the Main Menu. If you are following the example, skip ahead to Chapter 4 at this point.

Designing Your Own Form

When you have used the Subscriber file to learn how to use FILE and are ready to create your own file design, read the following general information:

- Leave a few extra spaces for each item. This does not take any more space on your diskette. It does make your form more readable, and leaves room for extra-long data items, or a data item accompanied by a retrieve specification (explained in Chapter 5).
- Make the first item in your form the one you will look for most frequently. FILE can find the first item in a file faster than any of the other items.
- When FILE prints out information from your files, it prints items in the order in which they appear on the form. Design your form with this in mind. For example, suppose you want to print mailing labels from a file. Your forms must be set up in the order of a standard mailing address (name, address, city, state, zip), or you will not be able to print a mailing label with the items in that order. Note that the items you choose for printing do not have to be adjoining, just in the proper order on the form.
- If you would like to have the same information stored in two different ways for different purposes, set up two items with different names. For example, have a Last Name item for searching and sorting customers by last name, and have a Name item for keeping names in the format you would use in a mailing address.
- Terminate each item name with a colon.
- Use space, not characters such as underlining, to visually separate items. Underline characters take up storage space on the disk; spaces do not.
- Each page of a form can contain a maximum of 50 items.

Multiple Page Forms

Your form can consist of more than one page, though the screen can show only one page at a time. If you need more than one page for a form, you can create up to 31 additional pages. Then you can move back and forth between pages, like turning pages in a book, by using these keys:

F2	Brings up the next page of the form on the screen. When you are designing a form, it brings up a blank page. You can continue to enter more item names.
F4	Recalls the previous page of the form to the screen. You can review it and make changes if you wish.

As you move through your multi-page form, the current page number is displayed in the message area at the bottom of the screen. An asterisk (*) to the right of the page number indicates there are additional pages in the form.

Erasing a Page

You can press the Clear key (Shift Home) to erase the currently displayed page of the form that you are designing. Other pages remain unchanged. However, pressing this function key does not remove the page from the form; the key merely turns it into a blank page. For example, if you design a four-page form and use the Clear key to erase page two, you still have a four-page form with a blank page two. To remove the blank page, you must redesign the form, retype page three on page two and page four on page three.

Leaving the DESIGN FILE Function

If at any time you want to terminate the DESIGN FILE function, you may do so by pressing the Stop key. If you press Stop while designing a form, however, the form design is not saved and the file is erased from the disk. You must press the F7 key to save the form design in the file.

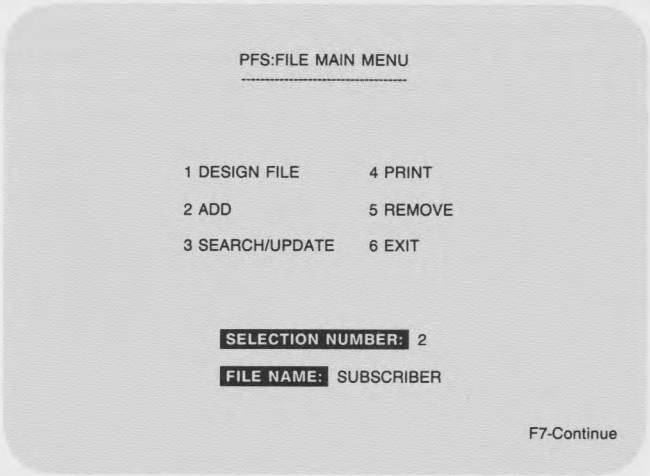
4: adding to a file

Once you have created a file, you use the ADD function to store information in it. Using ADD, you fill in a form with the information you want to keep; then store that form in the file. The actual number of forms that will fit in a file depends on the available space on the diskette, the number of pages in the form, the number of items per page, and the amount of data entered for each item. Appendix B explains how to calculate the exact number of forms you can fit on one diskette.

Adding Forms to a File

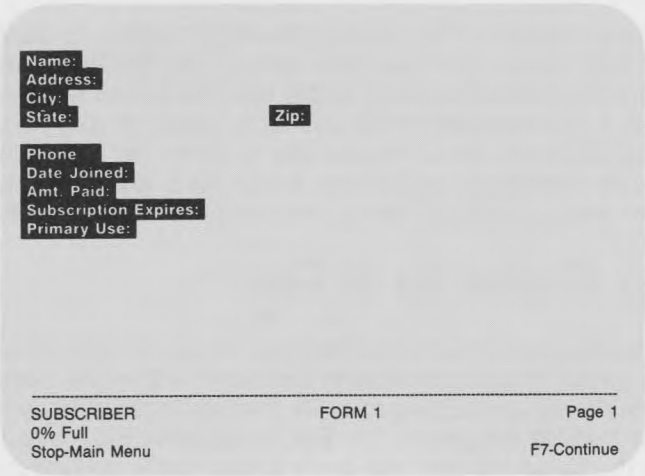
Let's add information to the Subscriber file. To select ADD, return to the Main Menu (press Stop, if necessary) and enter a **2** in the Selection Number item. If you are adding to a file that you have already been using, the name of that file remains in the File Name item. FILE assumes you are working on the same file until you enter a new name by typing over the old name.

For example, if you have just designed and stored the form for the Subscriber file in Chapter 3, your screen should look like this:



To add to a different file, enter its name in the File Name item.

When you have filled in the menu, press the F7 key. FILE begins the ADD function by displaying the form. If you are using the Subscriber file, your screen looks like this:

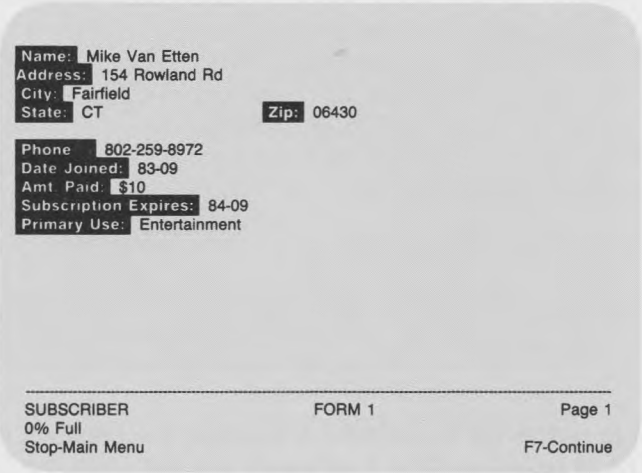


You fill in this form with the information you want to store. Notice that the item names are highlighted (dark characters on a light background) to distinguish them from the information you enter. They are also protected, so you cannot inadvertently write over and destroy them.

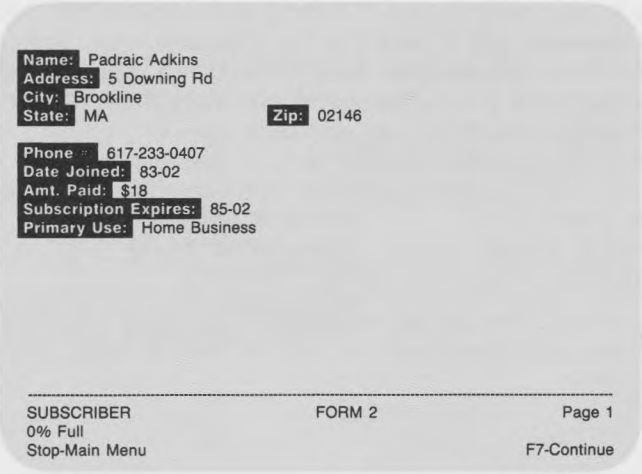
In the message area at the bottom of this screen, FILE tells you the number of the form you are adding to the file and displays a percent full meter showing you how much disk space you have used.

Filling in the Form

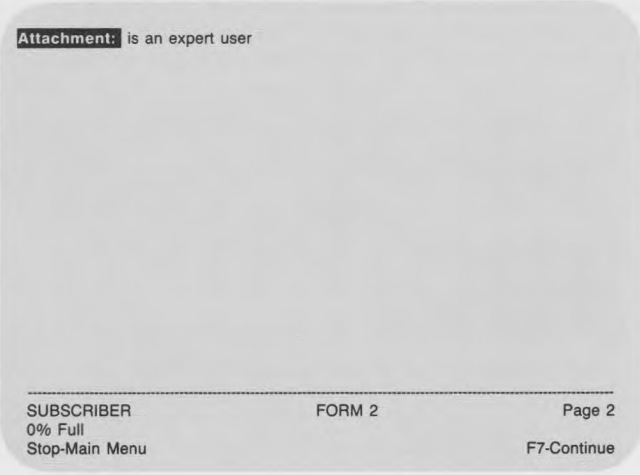
Now you are ready to add information to the Subscriber file. The cursor is positioned in the Name item. Type **Mike Van Etten**. Then press the F1 key to move to the Address item and type **154 Rowland Rd**. Continue pressing F1 to move to the next item (F3 moves the cursor to the previous item) and type in the rest of the information shown on the screen:



When the screen looks the way you want it, press F7 and FILE stores the form on the diskette. A new form (Form 2) appears on your screen. Fill in the second form with the information shown here:



For this form, there is additional information about Padraic Adkins to store. Since the Subscriber form only contains one page, add an attachment page for this information. Press F2 (Shift F1) and type in the additional information. The screen should look like this:



If you want to review the information entered on the previous page, you can press F4 to return to Page 1, although you can store the filled-in form regardless of which page is displayed on the screen. Go ahead and press F4, and notice that there is now an asterisk to the right of the page number to indicate that this form has an additional page.

Now press F7, and both pages of Form 2 are stored in the Subscriber file. The form reappears with FORM 3 in the message area, and you are ready to fill in information for the third subscriber. Using the information provided here, fill in four more Subscriber forms and store them on the diskette.

Form 3:

Name: Don Estes
Address: 133 N. Flicker
City: Sunnyvale
State: CA
Zip: 94736

Phone #: 408-446-5595
Date Joined: 84-06
Amt. Paid: $10
Subscription Expires: 85-06
Primary Use: Home business, TV repair

Form 4:

Name: Greg Siemsen
Address: 685 S.W. 199
City: Seattle
State: WA
Zip: 98166

Phone #: 206-541-2138
Date Joined: 84-01
Amt. Paid: $10
Subscription Expires: 85-01
Primary Use: Entertainment

Form 5:

Name: Doug Franklin
Address: 547 Mill Street
City: Santa Rosa
State: CA
Zip: 95499

Phone #: 707-528-0142
Date Joined: 82-12
Amt. Paid: $10
Subscription Expires: 83-12
Primary Use: Student, programming

Form 6:

Name: Janet Wesolowski
Address: 1100 Teton Drive
City: Pacifica
State: CA
Zip: 94049

Phone #: 415-354-0205
Date Joined: 83-06
Amt. Paid: $18
Subscription Expires: 85-06
Primary Use: Programming

After you fill in and save Form 6 by pressing F7, a blank Form 7 appears. Now press Stop and FILE returns to the Main Menu, ready to accept another function selection. If you are following the example, go on to Chapter 5 at this time. When you are ready to create your own file, read the rest of this chapter for guidelines on filling in forms.

Guidelines for Filling in Forms

When you are building your own files, you can add forms to the files in any order you like. There is no need to enter them in alphabetical or numerical order. However, you should keep the following points in mind:

- If you know that your data will require more than one diskette, presort it into groups according to your needs. For example, if you will want to sort your forms by zip codes, make sure that all forms with zip codes beginning with 0 are in one file, and all those beginning with 1 are in another, etc.

- Enter last names first to have FILE search your files or sort and print them in alphabetical order by last names. See Chapter 6 for details.
- Enter first names first if you want to keep your files in a standard address format—for printing mailing labels, for example.
- Enter dates in the format yy/mm/dd (year/month/day, with two digits for each part of the date) so FILE can search for them properly.
- Enter times in a 24-hour format, hh:mm, as in 13:45 for 1:45 p.m. It is necessary that minutes be two digits, but not necessary for hours.
- Enter numbers so that they are all the same length if you want FILE to sort by them. For example, if your highest numbers will be in the thousands, enter 9 as 0009.

Multiple Page Forms

You can move through a multiple page form using F2 to bring up the next page of the form, and F4 to recall the previous page. You can review the information on previous pages and make changes if you wish. When adding forms, you can also use these special keys to add and move through attachment pages.

Attachment pages appear after the last page of your form when you press F2. You can add attachment pages to a form until you run out of room on the diskette. This feature allows you to append information to any form. If you need to add some special information to a particular form, the information can be entered on an attachment page. If you forgot to include an item name when you originally designed a form, however, use the Change Design option of DESIGN FILE to add it (see Chapter 8).

Correcting Mistakes

If you make a mistake while entering data into a form, you can easily correct it. If the mistake is in the same item as the cursor, simply use the Del key to erase the last few characters and retype the correct information.

If the mistake is in another item (or on another page), use the F1 key, cursor control keys, or page control keys (F2 and F4 keys) to move the cursor to that item, then overtype with the correct information. You can also use the Inst key (Shift Del) to insert characters, or the Erase key (top left of keyboard) to delete them.

If you want to re-enter all the items on a particular page, press Clear (Shift Home). This key erases all the information entered on the current page and returns the cursor to the first item. Information on other pages is unaffected and item names are not erased.

Printing a Copy of a Single Form

You can print a copy of a single form when using the ADD function by pressing F5 while the form is on the screen. You might want to use this option to print a copy of your blank form, or to print a copy of each form that you fill in and add to an already established file. When FILE displays the print options, press F7 and FILE begins printing the form, using the default values for those options. (See Chapter 6 for a description of the print options.)

Exceeding the 50% Full Limit

If you create a file that uses more than half the space on the diskette, you will no longer be able to use the redesign function described in Chapter 8. To remind you of this consideration, the following screen appears when you reach this limit:

WARNING
If you continue to add information,
you will no longer be able to redesign
this file. See manual.
Press Stop to abandon this operation
Press F7 to continue

Leaving the ADD Function

You may press Stop at any time to terminate the ADD function, but if you do so before storing your form, the information you entered into that form is not saved. When you finish saving the last form, press Stop to return to the Main Menu. FILE is now ready to accept another function selection.

WARNING: Never remove your data diskette without completing a function and returning to the Main Menu. If you change diskettes while still in the ADD function, you may damage the data on your diskette.

5: finding and changing forms

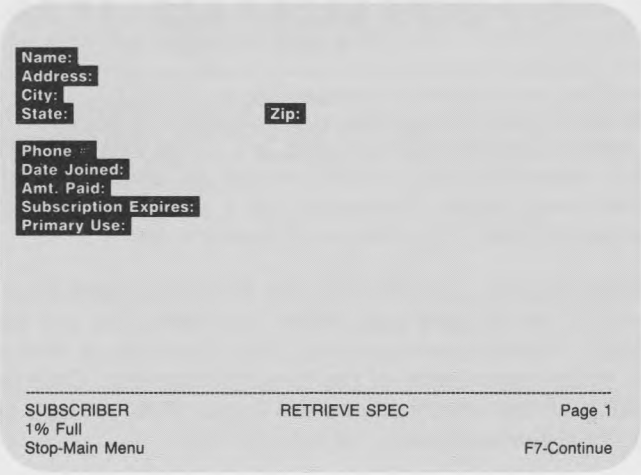
After you store information in a file, you can use the SEARCH/UPDATE function to search through your file and find forms that are of interest to you. FILE can search for forms based on the contents of any page, including attachment pages. Once you find a particular form, you can review it, update it, print it, or remove it from the file.

With SEARCH/UPDATE, you describe the forms you want FILE to find by filling in items on the retrieve spec form. The items that you enter on this form are called "retrieve specifications". You can enter a retrieve specification in as many items of the form as you wish. Only those forms in the file meeting all the specifications are found. If *no* retrieve specifications are entered, FILE retrieves *every* form in the file.

Using SEARCH/UPDATE

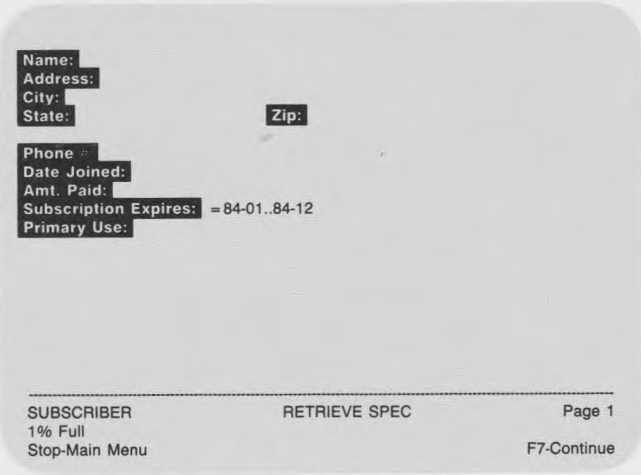
To select SEARCH/UPDATE, return to the FILE Main Menu (press Stop, if necessary). Enter a **3** in Selection Number and the name of the file you wish to search through in File Name.

Let's use the Subscriber file and search for information using the various search capabilities provided by FILE. When you enter Selection Number **3** and the file name **Subscriber** and press F7, the retrieve spec for the Subscriber file appears:

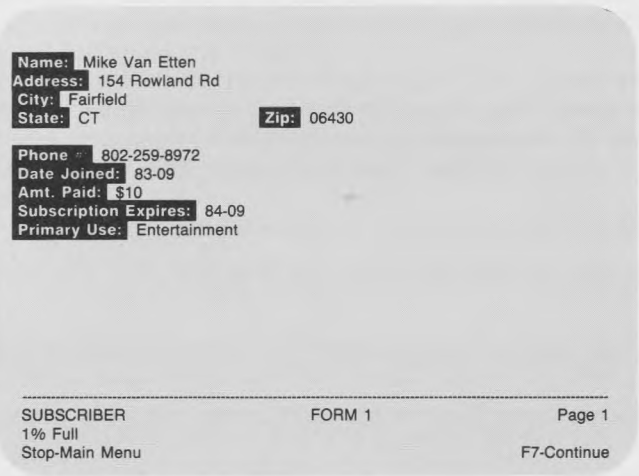


Searching the File

Suppose you want to search through the Subscriber file for all members whose subscriptions expire during 1984. Use the F1 key to move the cursor and fill out the retrieve spec form as shown here:



Press the F7 key and FILE begins searching. There is only one member in this category. As the form is found, FILE displays it:



Updating a Form

Assume there is an error in Mike's phone number. It should be 8973, not 8972. You can update it now. Press F1 repeatedly to move the cursor to the Phone # item; then press the right arrow key 11 times to move the cursor over to the 2 without destroying any of the correct digits. Type **3** to change the phone number, then press F7. The updated form is stored, and FILE continues its search.

When it finds no more forms, the message "Forms Found: 1" appears. Press F7 once more, and FILE returns to the Main Menu. The cursor is positioned in Selection Number, and Subscriber remains in File Name. FILE is ready to accept another function selection.

Using Retrieve Specifications with Your Own File

When you have created your own file and wish to search for forms in the file, use any of the five categories of retrieve specifications: the full item match, partial item match, numeric item match, numeric range match, and the "not" match. The following sections describe these five matches.

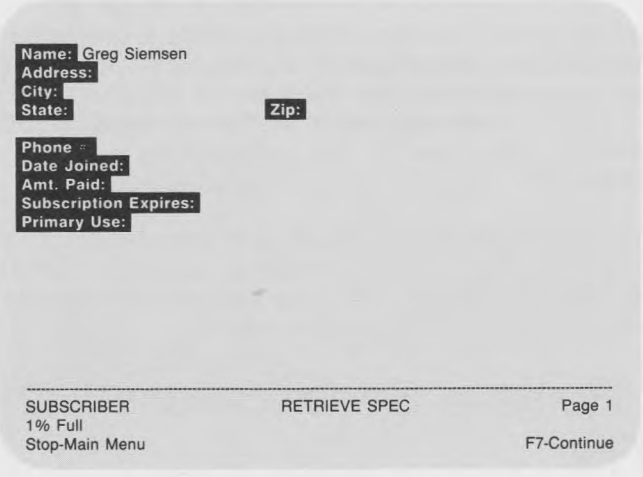
Full Item Match

For the fastest possible retrieval, use this type of retrieve specification. If you use a full item match in the first item of your form, any form can be found in 3-5 seconds.

In a full item match, FILE looks for forms on which the characters in an item exactly match the characters that you entered in the same item on the retrieve spec. (A character can be a letter, a number, or a punctuation mark.) To determine whether there is a match, FILE uses the following rules:

- FILE ignores spaces before the first character and after the last character.
- FILE treats multiple spaces within the items as a single space.
- FILE ignores the difference between upper and lower case.

For example, suppose you want to recall the Greg Siemsen form of the Subscriber file to the screen. Enter this retrieve specification:



Partial Item Matches

Use a partial item match if you do not remember exactly how an item of information is entered in a file, or if you want to find occurrences of specific pieces of information in your files. There are two kinds of partial item matches: the ..match.. and the ? match.

The ..match.. uses either two or four dots with a word or group of words (number or group of numbers) to search for an occurrence of certain information within an item. It works like this:

..Word	tells FILE to ignore whatever characters occur before Word.
Word..	tells FILE to ignore whatever characters occur after Word.
..Word..	tells FILE to ignore whatever characters occur before or after Word; i.e., to look for Word anywhere in the item.
..	tells FILE to find all forms with any characters in this item.

For example, suppose you want to recall Doug Franklin's form to the screen. Doug's full name is Douglas Franklin, Jr. but you don't know exactly how the name was entered in the file. Use the .. match as shown in this retrieve specification:

Name: ..Doug..

to find every record with the letters "Doug" anywhere in the name item.

The ? match uses the question mark as a "wild-card" character. This symbol can be entered in the retrieve spec form to represent any single character. When FILE searches, it accepts any character in that same position.

For example, suppose the second digit of a part number indicates its color and you want to retrieve all forms for a certain part regardless of its color. Enter the following retrieve specification:

Part Number: 3?711

to retrieve all forms listing the part.

Numeric Item Matches

You can also search items containing numbers by asking for all items greater than or less than a given number, or all items in a given numeric range. In determining the value of a number, FILE uses the following rules:

- FILE ignores all characters other than -,.,0,1,2,3,4,5,6,7,8,9. (Be sure to use the number 1 rather than lower case l, and the number 0 not the letter o.)
- A minus sign (-) appearing before the first digit or after the last makes the value negative. FILE ignores multiple minus signs.
- If FILE encounters multiple decimal points (.), it ignores all but the first.

Below are some examples of how FILE assigns an arithmetic value to a number that follows one of these symbols (<, >, or =):

Item	**Value**	
$1,706.22	1706.22	FILE ignores the $ and ,
13 MAY 1980	131980	FILE ignores MAY
70-06-29	700629	FILE ignores internal hyphens
20:45	2045	FILE ignores the colon.
FIVE	0	FILE ignores letters. If no digits are found, the value is zero.

For example, suppose you want to search through the Subscriber file for all the members who paid more than $10.00. The retrieve specification should look like this:

Amt. Paid: >10

Numeric Range Search

The numeric range match allows you to search for numeric values within a certain range. For example, use the following retrieve specification, which you read as "Date joined equal to 82/01 through 82/12":

Date Joined: =82/01..82/12

to find all the members who joined during 1982.

Note: Spaces are not allowed between the dots.

The "Not" Match

Any of the different types of retrieve specification can have its intent reversed by preceding it with a slash (/). For example,

/B.. Finds all those items that do *not* begin with "B".

/=10 Finds all those items that are *not* equal to ten.

/.. Finds all those items that are blank.

For example, suppose you want to search through the Subscriber file for all members who didn't indicate what use they made of their computer. The retrieve specification would look like this:

Primary Use: /..

Starting the Search

When you have entered all retrieve specifications, press F7, and FILE searches for the desired forms, starting with the most recent form added. While FILE is searching, the screen is blank except for the message area at the bottom where the form numbers change as FILE checks each form in the file.

When FILE finds a form meeting the retrieve specifications, it displays it on the screen and pauses. You can do any of the following:

Update the Form. You can make any changes to information stored in the form by positioning the cursor in the item you want to change and entering new information. Then, press F7, and FILE stores the updated form in the file and continues its search.

Review the Form. You can browse through the form, using the F2 and F4 keys if you have multiple pages. When you finish, press F7 and FILE continues its search.

Print the Form. You can print the form (all pages) by pressing F5. The print options form appears. Press F7, and FILE prints a copy of the form, using the default values in the print options. (See Chapter 6 for a description of the print options.)

Remove the Form. You can remove the form (all pages) from the file by pressing F6. Before the form is removed, the following screen appears:

If you do not want to remove this form (you may have pressed F6 by mistake), press the space bar, and FILE returns the form to the screen. If you want to remove the form, press F7, and FILE removes the form and continues its search. (See Chapter 7 for other removal capabilities.)

Leaving the SEARCH/UPDATE Function

You can terminate SEARCH/UPDATE at any time by pressing Stop. FILE returns to the Main Menu.

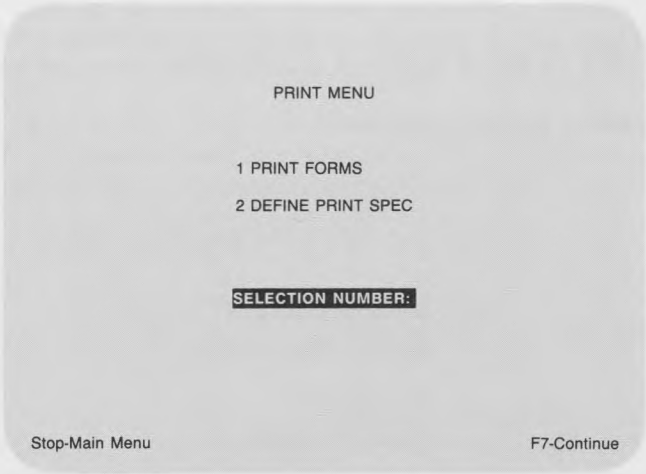
If you press Stop in the middle of updating a form, the changes to the form may not be recorded in the file. Any changes you make to a form are actually written in the file when the updated page disappears from the screen; that is, only when you press either F2, F4, or F7. If you make changes to a form, but press Stop before the page disappears, those updates are not written in the file.

6: printing forms

FILE gives you the ability to print selected forms or portions of forms from a PFS file according to a format that you specify. With the PRINT function, you indicate which forms you want to print, which items of the form you want to print, and how you want these items printed and sorted. FILE searches through the file, automatically printing all selected information. You can also store a format for printing to use at a later time.

Selecting PRINT

To select PRINT, return to the Main Menu. Type **4** in Selection Number and **Subscriber** in File Name. Then press F7 and the Print Menu appears:



At this point, you can select Print Forms or Define Print Spec.

Printing Forms

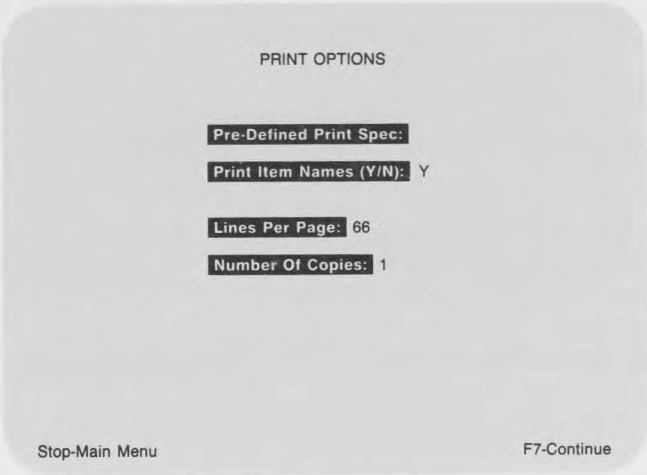
Let's use the Print Forms option to print mailing labels for all the subscribers in the Subscriber file. Type **1** for Selection Number and press F7. (For the purpose of the exercise, you can use ordinary printer paper instead of mailing labels.) Before printing begins, there are three steps to perform: choosing which forms to print, filling in the print options, and entering the print specifications. You fill out a separate form for each of the three steps.

Choosing Which Forms to Print

The first form is the retrieve spec form, used exactly as used in Chapter 5 to find certain forms in your file. When you want to retrieve *all* the forms in a file, you enter *no* retrieve specifications. Since you want to print mailing labels for all the people on your subscriber list, press F7 to go to the second step.

Filling in the Print Options

The Print Options form appears next:



This screen appears whenever FILE is about to start printing something. It allows you to control the format.

When you wish to change print options, read the following definitions:

Pre-Defined Print Spec: (Optional) If you previously defined a print specification and stored it, you can enter its name here, and FILE begins printing immediately, using this specification. If you do not have a pre-defined specification, leave this option blank. Pre-defining a print specification is discussed later in this chapter.

Print Item Names (Y/N): Here you can specify whether or not the item names are to be printed along with the information in the items. If you do not want the item names printed, type N over the Y.

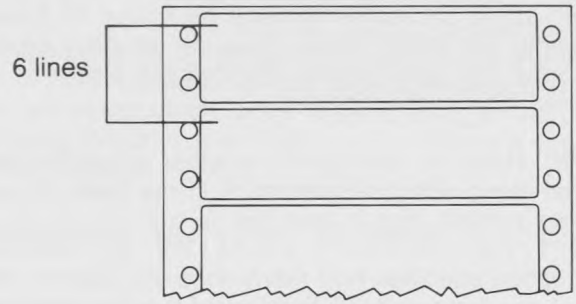
Lines Per Page: This option specifies how many lines you want to have between the first line of one form and the first line of the next form. The default value of 66 is the full size of a regular 8 1/2 by 11 page. You can adjust this value to accommodate the size of your printer paper, the size of your form, and the number of lines you want to have between forms. The number you enter should divide evenly into the total number of lines on your printer page, or you will print over the perforation. The choices for 66-line (11-inch) paper are: 66, 33, 22, 11, 6, and 1. If you enter 33 you print two forms per page; 22 prints 3 forms per page, etc.

Number Of Copies: This option specifies how many copies FILE prints of each form. If you specify more than one copy, FILE prints all copies of the first form, then all copies of the second form, etc.

Press F7 to print your form using the default values.

FILE temporarily stores any changes that you make to the print options. The next time you start the program, the default values will again be in effect. The print options can be updated at any time.

To select the desired print options for printing mailing labels, press F1 to skip the Pre-Defined Print Spec item and move to the Print Item Names item. Since you would not want item names on mailing labels, change the Y to **N**. Press F1 again to move to Lines Per Page. At this point, you need to determine the spacing between the mailing labels and make sure the labels are properly inserted in the printer. (If you have questions about loading paper or mailing labels, refer to the printer manual or see your dealer.) To determine the proper spacing, count the number of lines between the top of one mailing label and the top of the next. This is the number you want to enter in the Lines Per Page item.



For the mailing labels in this example, there are 6 lines from the start of one label to the start of the next. Type **6** and a space to write over the default value of 66. Your screen should look like this:

PRINT OPTIONS

Pre-Defined Print Spec:

Print Item Names (Y/N): N

Lines Per Page: 6

Number Of Copies: 1

Stop-Main Menu F7-Continue

When you finish with your print options, press F7, and the third form to fill in appears with the words PRINT SPEC in the message area at the bottom.

Entering Print Specifications

On the Print Spec form, you choose which items you want to print and how you want to arrange them (on the same line or on different lines). You can also use this form to tell FILE to sort the forms before printing them. If you leave this form blank, each form is printed exactly as it appears on the screen.

To select items for printing, use these two characters:

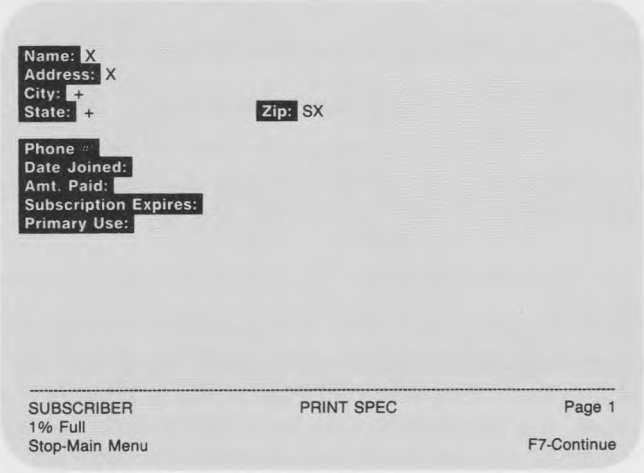
X — Print this item; then advance the printer to the next line.

\+ — Print this item, but do not advance the printer to the next line after printing it. Skip two spaces instead.

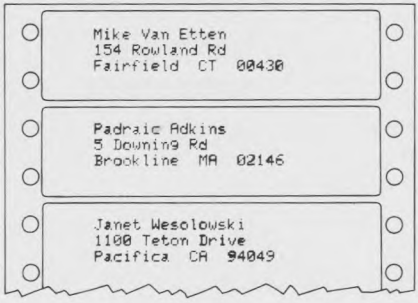
In addition, you can print the forms in a particular order by using the following character:

S — Sort the printout based on this item. Using the first ten characters in this item, FILE sorts the printout into ascending order. You can sort on one item only. S does not automatically cause an item to be printed. It must be used with X or + to print the item on which the sort is based. S can be used alone to sort the printout based on an item that is not printed.

For this mailing label example, the items that you want to select are Name, Address, City, State, and Zip. Type **X** after Name. Use F1 to move the cursor to Address and enter **X**. The City and State items each require a + sign to put them on the same line. Move the cursor to Zip and enter **SX**. (The mailing labels will be sorted by zip codes.) When you are finished, the Print Spec form looks like this:



Press F7 again, and FILE prints the mailing labels. They look like this:



After the last form is printed, the message "Forms Printed: 6" appears. Press F7 one more time. FILE returns to the Main Menu, ready to accept another function selection.

The Define Print Spec Option

The Define Print Spec option allows you to specify the way you routinely want to print forms from a particular file, and to give a name to that set of specifications. You can use these pre-defined print specifications repeatedly to print forms by simply referencing the name. You can store eight print specs in a file at one time.

Defining a Print Specification

For example, if you will be printing mailing labels regularly, you can store the X, X, +, +, SX information that you filled in on the Print Spec form so you don't have to retype it every time.

Lets define a print specification for doing mailing labels and call it Mailabel.

First, return to the Main Menu and enter a **4** in Selection Number. Press F7, and the Print Menu appears. Enter a **2** in Selection Number and press F7 again.

A screen indicating the current pre-defined print specs appears. Enter **Mailabel** in the Print Spec Name item, as shown below:

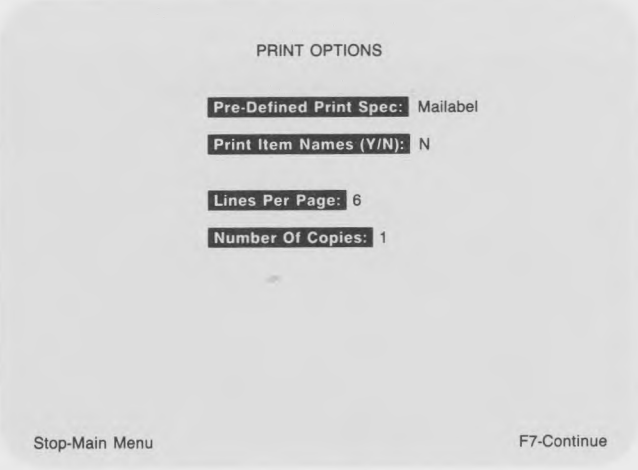
Press F7, and the print spec form for your Subscriber file appears. Indicate the items you want printed by filling in the form as you did before:

Name: X
Address: X
City: +
State: + Zip: SX

Press F7 one more time, and the print specification and its name are stored in the Subscriber file to use for future printings. FILE returns to the Main Menu.

Using a Pre-Defined Print Spec

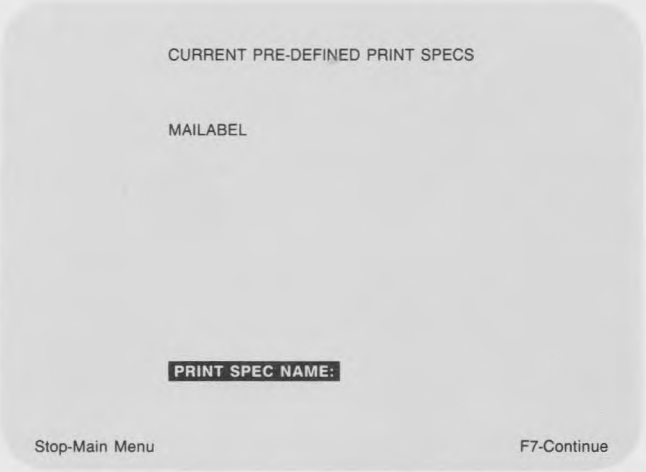
Now let's try using Mailabel. You are at the Main Menu, so enter a **4** in Selection Number to return to the Print Menu. Enter a **1** to select Print Forms, and press F7. When the retrieve spec form appears, again press F7 since you want all the forms in the file. The print options form appears next. Enter **Mailabel** in the Pre-Defined Print Spec item. The other items on the form should already be correct (provided you have not restarted the program) since the changes you entered in the print options are still stored in FILE. Your screen should look like this:



Press F7, and FILE goes directly to sorting and then printing the mailing labels, without displaying the print spec form, since the print specifications are defined by Mailabel.

Changing or Removing a Pre-Defined Print Spec

To change or remove a pre-defined print spec, select Define Print Spec from the Print Menu. The Current Pre-defined Print Specs screen appears:



To change a pre-defined print spec, enter its name in the Print Spec Name item. Press F7, and FILE displays the stored print specifications on the screen. You can make changes by typing over any entries on the form, or you can press the Clear key (Shift Home) to erase all the entries on that page of the print spec and start over.

To remove the print spec from the file, enter its name in the Print Spec Name item. Press F7, and when FILE displays the stored print specifications on the screen, press F6. A warning screen appears, giving you an opportunity to change your mind:

If you change your mind and want to keep the print spec, press the space bar. The print spec appears on the screen again. Now press F7, and FILE returns to the Main Menu. The print spec remains in your file.

If you want to remove the print spec, press F7. FILE removes the print spec from your file and returns to the Main Menu.

Reviewing Forms before Printing

If you wish to review each form before printing, use the SEARCH/UPDATE function (see Chapter 5). When printing with SEARCH/UPDATE, all items on the form are printed, unless you have pre-defined a print spec that selects certain items, and have entered that print spec name in the print options form. In that case, only the selected items will be printed.

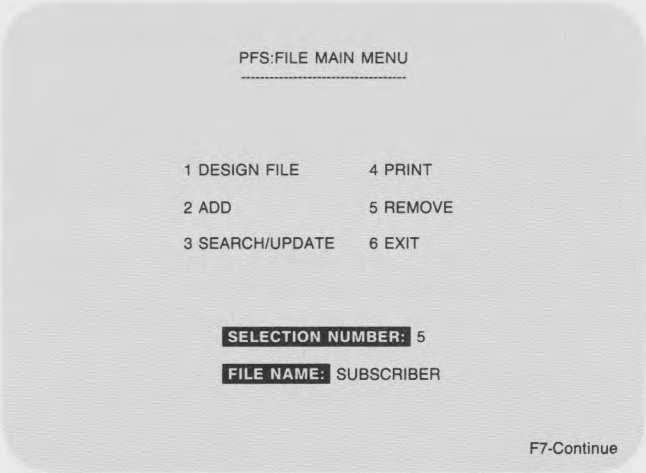
Leaving the PRINT Function

If at any time you want to terminate the PRINT function, press Stop to return to the Main Menu. If you press Stop while FILE is in the middle of printing a form, it finishes printing that form before it leaves the function.

7: removing forms

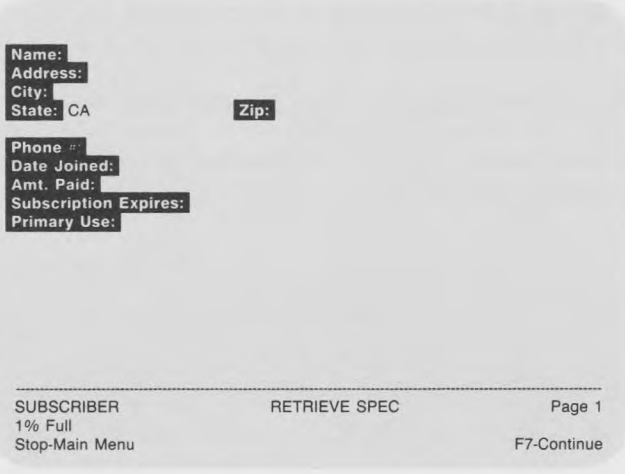
With the REMOVE function, you can delete forms you no longer need from your file. You indicate which forms you no longer want, and then FILE searches through the file, automatically removing all appropriate forms. (If you want to see each form before it is removed, use the SEARCH/UPDATE function and the F6 key as explained in Chapter 5.)

Let's suppose you want to remove all California subscribers from the Subscriber file. First, return to the Main Menu (press Stop, if necessary). Enter a **5** in Selection Number and **Subscriber** in File Name (if necessary). Your screen should look like this:



Removing Selected Forms from a File

Make sure the diskette containing the file is inserted in the drive. Press F7, and a retrieve spec form for the file appears on the screen. Using the F1 key, move the cursor to the State item. Enter **CA** to identify which subscribers' forms you want to remove. The screen should look like this:



When all retrieve specifications are entered, press F7. Removing a form involves erasing information from your file. Before FILE removes any forms, it displays the following screen, giving you the opportunity to change your mind:

If you press Stop, FILE returns to the Main Menu. No forms are removed. If you press F7, FILE removes all forms meeting your retrieve specifications, displaying each form as it removes it.

Press F7 now, and FILE removes all forms with CA in the State item. When it finishes, the "Forms Removed: 3" message appears. Press F7 one more time, and FILE returns to the Main Menu.

Once a form is removed, the disk space previously occupied by the form is available. However, the form number is never used again. If you want to renumber the remaining forms in your file so that they are numbered consecutively, use the Change Design option of DESIGN FILE (see Chapter 8).

Removing All Forms from a File

If you want to remove all the forms from a file, leave the retrieve spec blank. Press F7, and the following message appears:

If you change your mind at this point, press Stop to return to the Main Menu. Otherwise, press F7, and FILE removes all the filled-in forms, leaving only the form design.

Leaving the REMOVE Function

If at any time you want to terminate the REMOVE function, press Stop, and FILE returns to the Main Menu. If you press Stop while FILE is in the middle of removing a form, it finishes removing that form before returning to the Main Menu.

8: changing a form design

After you have created and used your file, you may want to redesign the form to suit your needs better. With the Change Design option of the DESIGN FILE function, you can add more items, delete some items, or rearrange the items on your form, whether your file is empty or contains data. However, a small typing error in doing a change design can cause you to permanently lose data, so always be sure to make a backup copy of your file before beginning.

Change Design can only be used if your file has never exceeded the 50% full warning.

Selecting Change Design

Let's redesign the Subscriber form to include a Date Renewed item and delete the Phone Number item. (You might want to re-enter forms for Estes, Franklin, and Wesolowski if you deleted them while using the REMOVE function.)

To select Change Design, return to the FILE Main Menu (press Stop, if necessary). First, enter a **1** in Selection Number to select DESIGN FILE. Enter **Subscriber** in File Name if necessary, and make sure the diskette containing your file is in the drive. Press F7, and the Design File Menu appears. Enter a **2** in the Selection Number item on this menu to select Change Design. Your screen should look like this:

Some points to remember when using the redesign option:

- Be sure to make a backup copy of your file first.
- You can only redesign a file if it uses less than half the space on the diskette.
- The item names in the old and new designs of the form must match exactly or the data will not be copied. Every typed character between one colon and the next colon is considered to be part of an item name. (For example, if you used hyphens to separate item names, those hyphens would be considered part of the following item name.)
- You can move items to different places on the form without affecting the data for those items as long as the names match exactly.
- The redesigned form can have more or fewer items than the original form. When you delete items from the form, however, the data for those items is not copied. It is permanently lost from the file.

- Leave enough space for the information in the item on the original form to fit into the item on the redesigned form. (See *When the Data Doesn't Fit into the New Design* in this chapter.)
- Only four pages maximum can be redesigned at one time. (See *When the Form Has More Than One Page* in this chapter.)
- The forms in your file are renumbered in reverse order during the redesign process.

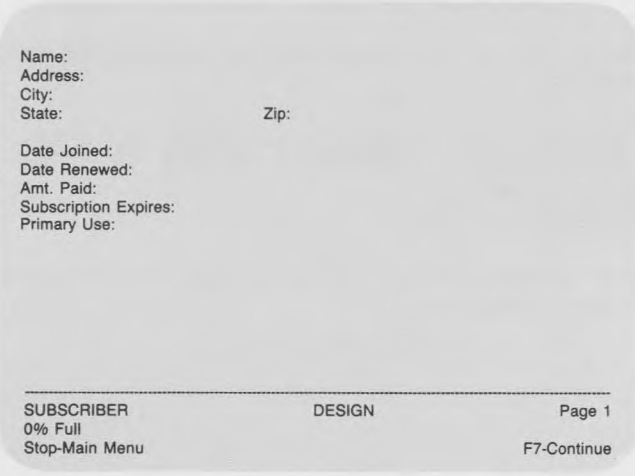
Using Change Design with a File Containing Data

After you select Change Design from the Design File Menu and press F7, the following screen appears:

WARNING
THIS OPERATION WILL ALTER THE FILE
Backup the file before continuing
Press Stop to abandon this operation
Press F7 to continue

If you press Stop, FILE returns to the Main Menu. To continue, press F7. FILE prepares the disk for a new file and then displays the form from your file as you originally designed it. The item names are no longer protected from overwriting. You can type in new items, delete items by typing spaces over them, or move items by removing them from their original locations and typing them into new locations (you must type the item names exactly as they originally appeared.) Use the cursor control keys to move the cursor around the screen.

To change the Subscriber form, use the Down Arrow or Return key to move the cursor down the screen to the Phone # item. Use the space bar to erase the item and type **Date Joined:** in that space. Then type **Date Renewed:** over the old Date Joined item. The form should now look like this:



When you have made all the desired changes, press F7 and FILE changes the design on all the filled-in forms, showing you each form in its original format during the process. When all the forms have been copied to the new design, FILE returns to the Main Menu.

When you do a Change Design on a file, the rate at which the forms are copied depends on the amount of data in each form. Since it takes about ten minutes to copy the six forms in the Subscriber file, you can see that to do a Change Design on a large file could be a time-consuming process.

Using Change Design to Renumber Forms

When you remove a form from your file, its form number is never used again, although the disk space occupied by the form is reused when you add a new form. If you have removed a number of forms from a file and want to renumber the remaining forms consecutively, use the Change Design option. When FILE displays the form from your file for you to redesign, press F7 without making any changes. FILE recopies the forms in your file and renumbers them in consecutive order.

Since FILE recopies the forms starting with the last form entered in the file, using Change Design to renumber forms reverses their order in the file. If this reverse order is not acceptable for some reason (perhaps you search the most recently entered forms most often, and having them at the beginning of the file slows down the search process), use Change Design a second time. This will get them back in their original order.

Changing Forms with Multiple Pages

You can change only four pages of a multiple-page form at any one time. Thus, if you want to change six pages, you have to change four of them first, complete the Change Design function, then repeat the operation for the other two pages.

When the Data Doesn't Fit into the New Design

When transferring data from the original form to the redesigned form, if the information in an item does not fit into the space for that item on the redesigned form, FILE stops and displays a message saying "Problem, an item is too long". You can solve this problem in either of the following two ways.

If only one form has an item that is too long, it is probably better to shorten the information in that item so that it fits in the new design (or, if the information is not vital to the new file, delete either the item content or the entire form). If you press F7, the form with the overlong data item appears with the cursor located at the first character that does not fit into the redesigned form. Shorten the information in the overlong item and then press F7 again to continue copying.

If many of the forms in the file have an item that is too long for the redesigned form, you might want to cancel the operation and redesign the form again to accommodate the data. When you press Stop, you return to the Main Menu. FILE does not save the redesigned form. The file remains in its original state, and you must begin again.

Using Change Design with a File Containing No Data

If your file does not contain data, select Change Design from the Design File Menu and press F7. The form appears immediately for you to edit. You modify the form as desired and then press F7 to store the new version of the form on the diskette. FILE then returns to the Main Menu.

Entering Data in Redesigned Forms

You can use the SEARCH/UPDATE function to enter information in an item that you added to a form in the redesign process.

After entering SEARCH/UPDATE, leave the retrieve spec form blank and press F7 so that FILE retrieves every form in the file. As each form appears on the screen, enter the new information into the new item and press F7 to store the updated form in the file.

Repeat this procedure until every form in the file has been updated. After you store the last form, FILE displays a screen to tell you how many forms it found. Press F7 one more time. FILE returns to the Main Menu, ready for another function selection.

Example of Entering Data in a Redesigned Form

Let's put information in the Date Renewed item you added when you redesigned the form for the Subscriber file.

First, return to the Main Menu (press Stop, if necessary) and enter a **3** in Selection Number. Since you just redesigned your Subscriber form, Subscriber should still be in File Name, and the diskette containing Subscriber should still be in the drive. Press F7, and the retrieve spec from Subscriber appears.

You want to look at all the redesigned forms, so leave the retrieve spec form blank and press F7. The first of your Subscriber forms appears on the screen. Use F1 to move the cursor to the Date Renewed item, and enter the appropriate information from the list below. After you finish with each form, press F7, and the next form appears. When you come to the forms

for Adkins, Wesolowski, Siemsen, and Estes, simply press F7 to move to the next form, since these subscribers have not renewed yet. Enter information for the other two as shown here:

Name	Date Renewed	Subscription Expires
Mike Van Etten	84-09	85-09
Doug Franklin	83-12	84-12

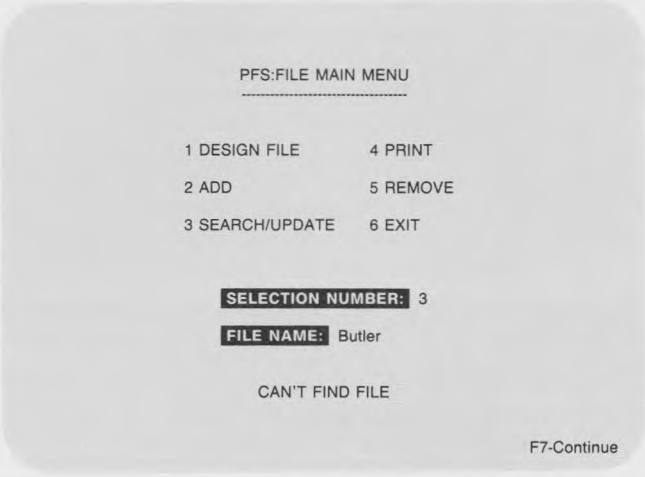
When you finish the last form and press F7, the message "Forms Found: 6" appears. Press F7 one more time, and FILE returns to the Main Menu.

Leaving the Change Design Option

If at any time you want to terminate the Change Design option, press Stop to return to the Main Menu. If you press Stop, however, FILE does not save the redesigned form. The form remains in its original state.

a: messages

FILE displays a message whenever it encounters an error condition. Certain errors are the result of mistakes made when you enter information (filling in the Main Menu items, PRINT options, or retrieve specifications). These messages are displayed in the message area at the bottom of the screen:



Other errors are the result of physical limitations or problems with certain elements of your computer system. These messages are displayed on a separate screen that looks like this:

When you encounter one of these messages, locate the message in the following list and follow the instructions in the Corrective Action column. To restart normal FILE operation, press Stop.

Message	Corrective Action
AN ITEM IS TOO LONG	When FILE transfers data from an original form to a redesigned form, it halts the process whenever it encounters an item that does not fit into the space set aside on the redesigned form. Either press Enter and edit the information in the overlong item or press Esc and redesign the form.
CAN'T FIND FILE	FILE uses the first ten characters of the file name to look for a match. FILE cannot find the file you named on the diskette that is in the drive. Check to make sure you entered the name of the file correctly. Make sure the proper diskette is in the drive. The file name you entered is not the name of a file created by PFS:FILE. Enter the name of a PFS file and try again.
CAN'T FIND PRINT SPEC	There is no pre-defined print spec with that name. Check to make sure you entered the name correctly.

Message	Corrective Action
DISK IS FULL	FILE attempted to write some information on a diskette and found that there was no room left. If you have some unnecessary forms in the file, you can create some space by removing them (see Chapter 7). If the file is going to continue to grow, start a new diskette.
DISK IS WRITE-PROTECTED	FILE cannot use diskettes that are write-protected. FILE uses certain areas of the diskette to store temporary information, even when you select a retrieve function. Remove the write-protect tab. To protect the data that could now be overwritten, use BACKUP (see Appendix C) to make a backup copy of your file.
DRIVE IS NOT READY	The disk drive door is open. Close the door. You will also get this message if the drive is not connected properly. Check the cable. Or the diskette may be unformatted. Format the diskette.
FILE IS TOO LARGE TO CHANGE DESIGN	If you have received the 50% full warning screen and continued to add information, even if you later remove forms to reduce the file to less than 50% full, you can no longer do a redesign on this file. You must create a new file design on a new diskette.
INVALID SELECTION NUMBER	You entered a number for the Selection Number item of a menu that is invalid. Re-enter a number that is shown on the menu.

Message	Corrective Action
I/O ERROR	There is a physical problem with either the disk drive, the disk controller, or the diskette. Some possible causes are: Diskette inserted incorrectly. Remove the diskette; then re-insert it properly. Worn out diskette. After 40-50 hours of use, the diskette may need replacing. Try using a different diskette. Broken data base. If the address of one of your forms is unreadable, FILE cannot read through the entire file. Immediately make another copy of your backup diskette and use the backup. See your Commodore Disk Drive manual for further information on I/O errors. If I/O ERROR persists, take the disk drive to your dealer for testing.
MUST BE A PFS DATA FILE	FILE cannot recognize the file as a PFS file. Check that you typed the name correctly, and that the correct disk is in the drive. If the file *is* a PFS data file, it has been damaged. Make a second copy of your backup, and use the backup.
ONLY 4 PAGES CAN BE CHANGED	You have tried to change the form design on more than four pages of the form at one time. Complete the Change Design process for no more than four pages of a form design at one time. Repeat the process for each additional four pages.
ONLY 8 PRINT SPECS ARE ALLOWED	You have already defined eight print specs for the file. Remove one of the print specs; then define the new one.

Message	Corrective Action
PFS DATA FILE IS BROKEN	FILE cannot find a form in your file and therefore cannot read past the lost form. You cannot use this diskette again unless is it re-initialized (erasing all the data). Make a new copy of your backup diskette and use it. Causes of a broken data file can be physical damage to the diskette or removing the diskette from the drive in the middle of some process, instead of returning to the Main Menu.
PLEASE GIVE A FILE NAME	You have left the File Name item blank. To create a new file, you must enter a file name in this item. Enter the name of the file you wish to create.
PLEASE GIVE A PRINT SPEC NAME	You have tried to define or modify a pre-defined print specification but have not entered a name. Enter a new name or one of the names listed on the screen.
PRINTER IS NOT READY	FILE cannot access the printer. Check to make sure your printer is plugged in, turned on, has paper, and the switch in the back is set for device 4.
SEARCH LIST IS TOO LONG	The retrieve specifications will not fit in FILE's internal storage area. Specify fewer requests in the retrieve specifications.

b: diskette storage capacity

A standard diskette can hold up to 1000 very simple FILE forms. The actual number of forms depends on how much information you store in each page of each form.

FILE stores data in blocks of 128 bytes. Each page requires at least one block. If you have a one-page form that requires fewer than 128 bytes, each form will occupy only one block and a disk will hold the maximum number of forms. If your form is 130 bytes, FILE must allot another whole block to each form. Therefore, the disk will hold only half as many forms. The following table gives you a feel for how many forms will fit on a diskette.

Number of 128-byte Blocks per Form	Forms per Diskette
1	1000
2	500
3	333
4	250
5	200

To see how many bytes your form will need, use the following rules:

- FILE uses the first 14 bytes of every page of your form.
- Each item name uses 5 bytes.
- Each character in an item takes one byte.
- A blank space between words takes one byte, but blanks at the beginning or end of an item are ignored.
- A string of more than 3 blanks within an item is condensed to 3 bytes.

  Example: Name: Jeff Stribling 1980
  Length= 5 4 1 9 3 4 = 26 bytes

- A blank item takes 6 bytes (5 for the item name, plus 1 blank character).

For example, the following form takes 122 bytes:

Name: Jon Adams Phone#: 759-844-3226
Address: 87 Belden
City: Reno State: NV Zip: 89512
Date Joined: 82-10
Amt. Paid: $10
Subscription Expires: 83-10
Primary Use: Student

Count the bytes as follows:

14 - used by FILE
50 - 10 item names, 5 bytes each
9 - Jon Adams
9 - 759-844-3226
9 - 87 Belden
4 - Reno
2 - NV
5 - 89512
5 - 82-10
3 - $10
5 - 83-10
7 - Student

122 total bytes used for this filled-in form

This form uses fewer than 128 bytes, so you could store 1000 of them on one diskette. However, since 122 is so close to 128 and names and addresses are likely to be longer, many of your forms may be more than 128 bytes. You can therefore fit somewhere between 500 and 1000 forms on the diskette.

Remember also that if you fill the disk more than half full, you will no longer be able to do a change design.

c: disk utilities

This appendix shows how to format a diskette and how to make backup copies of your PFS data diskettes.

Formatting a Diskette

A diskette must be formatted before FILE can use it. Formatting creates tracks on the diskette where the information is stored. Use Commodore DOS statements as described here to format your diskette. For further information, see your VIC-1541 Single Drive Floppy Disk User's Manual.

To format a diskette before using it, turn on your computer and insert a new diskette (or one you wish to erase) in the drive. When the screen shows the READY prompt, type **OPEN 15,8,15** and then press the Return key. This statement opens a link to the disk drive. When the READY prompt appears again, type **PRINT#15,"NEW0:BB,V1"** and then press the Return key. (The character following NEW must be a zero.) This statement sends the NEW command to the disk drive and formats the diskette, giving it the name BB,V1. Any characters you wish may be substituted for the BB,V1.

Making a Backup Copy

Since Commodore DOS does not provide a backup command, there is a program named BACKUP provided on your FILE program diskette. To make a backup copy of your PFS:FILE data diskette, first format a blank diskette to receive the data. Then, with your computer turned on and waiting with the READY prompt, put the FILE program diskette in the drive and type **LOAD"BACKUP",8,1**. Press the Return key and follow the instructions on the screen. When requested, place your original PFS data diskette, the source diskette, in the drive. BACKUP will read as much of the file as it can, then instruct you to put the diskette you want to copy to, or destination diskette, in the drive. Continue switching the two diskettes when requested. When the READY prompt reappears, remove the last diskette from the drive. Label the backup copy with name and date and keep it in a safe place.

Recommended Backup Procedure

Back up your data files on a regular basis. If you update them daily, then back up daily. If you update less often, then back up whenever you update.

A good method is to make two backup copies of your file and back up to the alternate backup copy each time. This way, if a problem develops while making a backup, you will still have the data on the other backup diskette.

If you encounter problems with a file or get an I/O ERROR message, discard the diskette at once and use the backup diskette (make a copy of the backup diskette first). If the problem recurs with the backup diskette, ask your computer dealer for help.

q: a quick guide to PFS:FILE

Cursor Control Keys

Key	Function
⇐ CRSR ⇒	(Shift) Move the cursor to the left one space.
⇐ CRSR ⇒	Move the cursor to the right one space.
⇑ CRSR ⇓	(Shift) Move the cursor up one line.
⇑ CRSR ⇓	Move the cursor down one line.
Return	Move the cursor to the beginning of the next line.
F1	Move the cursor forward to the next item on the form or menu.
Home	Move the cursor to the top left-hand corner of the screen.

Special Function Keys

Key	Function
F7	Begin or continue with the specified function.
F2	Display the next page of the form.
F4	Display the previous page of the form.
F5	Print the currently displayed form (all pages).
F6	Remove the currently displayed form or pre-defined print spec.
Clear	Erase all entries from the currently displayed page.
Inst	Switch between normal and insert mode of typing.
←	Delete the character at the cursor location.
Del	Move the cursor one space to the left, erasing that character.
Stop	Return to the FILE Main Menu.

Designing a File

Steps

1. Select DESIGN FILE function from the Main Menu.
2. Select Create File option.
3. Type in the design.
4. Press F7 to store.

Notes

- Make the first item the one you search for most frequently.
- End each item name with a colon.
- Leave plenty of space for each item.
- Press F2 to add a page to the design.
- Maximum of 50 items per page
- Maximum of 32 pages per form

Adding Information to the File

Steps

1. Select ADD from the Main Menu.
2. Fill in the form (all pages).
3. Press F2 to create an attachment page.
4. Press F7 to store.

Searching

Steps

1. Select SEARCH/UPDATE function.
2. Enter retrieve specifications.
3. Press F7 to begin search.

Retrieve Specifications

- leave blank to find all forms
- abc finds **abc** only (upper or lower case)
- ..xyz finds any entry ending **xyz**
- abc.. finds any entry starting **abc**
- ..pqr.. finds any entry containing **pqr**
- .. finds any nonblank entry
- ?and finds any four-letter word ending with **and** (band, land, etc.)
- <10 finds any number less than 10
- >99 finds any number greater than 99
- =33 finds the number 33
- =1..5 finds any number 1 through 5
- /=25 finds any number not equal to 25
- /A.. finds any entry not starting with A
- /.. finds any blank entry

Printing Forms

Options

- *Print Forms* prints a copy of all or part of one or more forms.
- *Define Print Spec* stores a set of print specifications for repeated use. (Maximum eight print specs per file.)

Steps

1. Select PRINT function.
2. Select Print Forms option.
3. Enter retrieve specifications; press F7.
4. Choose print options; press F7.
5. Enter print specifications; press F7.

Print Specifications

- X print item and move to next line.
- + print item but stay on same line (skip 2 spaces).
- S sort printout based on this item.

Notes

- Leave the print spec form blank to print the form as it appears on the screen.
- Items are printed in the same relative order in which they appear on the form.

Changing Design

Steps

1. Make a backup copy of the file before beginning.
2. Select DESIGN FILE function.
3. Select Change Design option.
4. Add items by typing new item names; delete items by typing over names with blanks; move items by deleting them from their original location and typing them into the new location.
5. Press F7 to store the new design.

Notes

- You cannot change the design of a file that has exceeded the 50% limit.
- Item names in the redesigned form must match exactly the item names in the original form, or the data will not be copied.
- Leave enough space for the information in an item on the original form to fit into the item on the redesigned form, or edit the information to fit.
- Only four pages of a multiple page form can be changed at one time.
- Forms are renumbered in reverse order.

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